AMENDMENTS TO THE DRAWINGS

The attached sheet of drawings includes a change to Fig. 1. The one sheet, which includes Fig. 1, replaces the original sheet including Fig. 1. In Fig. 1, reference numeral 14a has been added to identify the end face of piston 14.

Attachment: Replacement Sheet

Annotated Sheet Showing Changes

REMARKS

Claims 20, 21, 23-36 and 38 are presently in the application. Claims 1-19, 22 and 37 have been canceled. Claims 26, 28, 29, 31-34 and 36 have been withdrawn from consideration as being drawn to a nonelected species.

In the Office actions mailed August 24, 2007 and January 25, 2008, the examiner omitted a rejection or an indication of allowability of claim 24. Accordingly, it is requested that a new non-final Office action be issued advising applicant of the status of claim 24. The examiner failed to respond to a similar request made in the amendment filed on November 21, 2007. Applicant is entitled to an action on claim 24.

Fig. 1 of the drawings has been amended to show reference numeral 14a, identifying the end face of piston 14. A corresponding amendment has been made to the specification.

New independent claim 38 returns to the language of claim 37 as found in the amendment dated June 8, 2007, and adds additional structure in order to better distinguish applicant's invention from that taught by the applied references. New claim 38 differs from claim 37, as found in the amendment dated June 8, 2007, by the language underlined as follows:

> 38. **(New)** A fuel injection device (1) adapted to be connected to a high-pressure source (2), said fuel injection device (1) comprising:
>
> a multi-part injector body (4; 8, 9, 10);
>
> **an injection valve element (24) in said multi-part injector body for blocking or unblocking at least one injection opening (25);**
>
> **a nozzle chamber (23) enclosing the injection valve element in the region of a pressure shoulder provided on the injection valve element (24);**
>
> a pressure booster (11) provided in said multi-part injector body, said pressure booster (11) comprising a pressure booster

piston (14), a working chamber (12) on one side of said **pressure booster** piston and a differential pressure chamber (17) on an opposite side of said pressure booster piston, said pressure booster piston (14) sealing the working chamber (12) off from the differential pressure chamber (17), said pressure booster piston (14) being actuated by means of a pressure change in said differential pressure chamber (17), **and a high-pressure chamber (19) defined, at least in part, by an end face (14a) of the pressure booster piston (14)**;

a nozzle chamber inlet (22) hydraulically connecting the nozzle chamber (23) with the high-pressure chamber (19);

a control chamber (20) hydraulically connected to the high-pressure chamber (19);

an on-off valve (5, 70) for actuating said fuel injection device (1);

a central control line (31) extending through said pressure booster piston (14), said pressure change in the differential pressure chamber (17) of the pressure booster (11) occurring via the central control line (31); and

wherein the central control line (31) extends essentially coaxially to an axis of symmetry of the pressure booster piston (14).

Claim 37 has been rejected under 35 U.S.C. 102(b) as anticipated by Boecking (US 2002/0023970).

Claims 20, 21, 23, 25, 27 and 30 have been rejected under 35 U.S.C. 102(b) as anticipated by Kato et al (US 4,627,571).

Claims 20, 21, 23, 25 and 37 have been rejected under 35 U.S.C. 102(b) as anticipated by Boecking et al (WO 01/38712).

Claims 35 and 37 have been rejected under 35 U.S.C. 102(b) as anticipated by Schneider (US 4,538,576).

Reconsideration of these rejections is requested.

The rejection of claim 37 as anticipated by Boecking (US 2002/0023970)

New independent claim 38 is directed to a fuel injection device comprising, inter alia, a pressure booster provided in a multi-part injector body, the pressure booster comprising a pressure booster piston, a working chamber on one side of the pressure booster piston, a differential pressure chamber on an opposite side of the pressure booster piston, the pressure booster piston sealing the working chamber off from the differential pressure chamber, the pressure booster piston being actuated by means of a pressure change in the differential pressure chamber, and a high-pressure chamber defined, at least in part, by an end face of the pressure booster piston. In addition, claim 38 requires a nozzle chamber inlet hydraulically connecting the nozzle chamber with the high-pressure chamber.

In Boecking (US 2002/0023970), the only "chamber" connected to the nozzle chamber 28 by the nozzle chamber inlet 11 is the valve chamber surrounding the 3/2-way control valve body 9 (see para. 13). However, this chamber in Boecking is not defined, at least in part, by an end face of the pressure booster piston as required by claim 38. Thus, claim 38 is not anticipated by Boecking (US 2002/0023970).

The rejection of claims 20, 21, 23, 25, 27 and 30 as anticipated by Kato et al (US 4,627,571)

Claims 20, 21, 23, 25, 27 and 30 all depend from independent claim 38 and, accordingly, also recite a pressure booster provided in a multi-part injector body, the pressure booster a pressure booster piston, a working chamber on one side of the pressure booster piston, a differential pressure chamber on an opposite side of the pressure booster piston, the pressure

booster piston sealing the working chamber off from the differential pressure chamber, the pressure booster piston being actuated by means of a pressure change in the differential pressure chamber, and a high-pressure chamber defined, at least in part, by an end face of the pressure booster piston. In addition, claim 38 requires a nozzle chamber inlet hydraulically connecting the nozzle chamber with the high-pressure chamber.

According to the examiner, Kato et al teaches: a pressure booster piston 56; a working chamber 24; and a differential pressure chamber 54 (Fig. 1).

In fact, like Boecking (US 2002/0023970), Kato et al fails to teach a fuel injection device with a pressure booster means as recited in claims 20, 21, 23, 25, 27 and 30.

In Kato, injection pressure is supplied directly from pump 12 via lines 14 and 26 to an accumulating chamber 24, passage 15 and into valve chamber 28. See, col. 2, l. 65 through col. 3, l. 3. What the examiner describes as "pressure booster piston 56" is actually a damping plunger (col. 3, l. 36). Element 24 is an accumulating chamber (col. 2, l. 64) and element 54 is a damping chamber (col. 3, l. 34).

What Kato actually discloses is a damping plunger 56 for damping the opening motion of nozzle needle 32. The damping plunger has a through-hole 58 coaxially formed therein and passing through the damping plunger 56. This through-hole 58 communicates damping chamber 54 with connector hole 60 which is formed in the upper end portion of valve member 42. Neither damping plunger 56 nor valve member 42 is part of a pressure booster. Further, the damping plunger 56 cannot be said to seal the connector hole 60 off from the damping chamber 54,

because the damping chamber 54 and connector hole 60 are always in fluid communication via the through-hole 58.

Claim 38 requires a pressure booster piston, a working chamber on one side of the pressure booster piston, a differential pressure chamber on an opposite side of the pressure booster piston, a high-pressure chamber defined, at least in part, by an end face of the pressure booster piston and a nozzle chamber inlet hydraulically connecting the nozzle chamber with the high-pressure chamber. Kato fails to teach the three chambers arranged as recited in claim 38. Therefore, Kato et al does not anticipate claims 20, 21, 23, 25, 27 and 30.

Further, the dependent claims recite additional structure not taught by Kato. For example, claim 27 recites that the line section of the central control line supports a sealing sleeve that can move in relation to the line section and that produces a high-pressure seal for the working chamber and a spring for biasing the sealing sleeve. No such structure is found in Kato et al.

The rejection of claims 20, 21, 23, 25 and 37 as anticipated by Boecking et al (WO 01/38712)

Claims 20, 21, 23, 25 all depend from independent claim 38 and, accordingly, also recite a pressure booster piston, a working chamber on one side of the pressure booster piston, a differential pressure chamber on an opposite side of the pressure booster piston, a high-pressure chamber defined, at least in part, by an end face of the pressure booster piston and a nozzle chamber inlet hydraulically connecting the nozzle chamber with the high-pressure chamber.

According to the examiner, Boecking et al (WO 01/38712) teaches a pressure booster comprising a pressure booster piston 62, a working chamber 78 and a differential pressure chamber 75.

In fact, like Boecking (US 2002/0023970) and Kato et al, Boecking et al (WO 01/38712) fails to teach a fuel injection device with a pressure booster means as recited in claims 20, 21, 23, 25, and 37.

US 6,581,850 is the English-language equivalent of WO 01/38712. In col. 5, ll. 31-37, of US 6,581,850, it is taught that the injection valve member 24 is moved in the opening direction by the pressure of the reservoir 14 acting on pressure shoulder 36. There is no mention of means being provided for increasing the pressure of the fuel received by the fuel injection device from the reservoir 14.

Boecking et al (WO 01/38712) fails to teach or suggest a fuel injection device of the type recited in claim 38, including a pressure booster piston, a working chamber on one side of the pressure booster piston, a differential pressure chamber on an opposite side of the pressure booster piston, a high-pressure chamber defined, at least in part, by an end face of the pressure booster piston and a nozzle chamber inlet hydraulically connecting the nozzle chamber with the high-pressure chamber. Accordingly, claims 20, 21, 23, 25, and 37 are not anticipated by Boecking et al (WO 01/38712).

The rejection of claims 35 and 37 as anticipated by Schneider (US 4,538,576)

According to the examiner, Schneider (US 4,538,576) teaches a pressure booster comprising a pressure booster piston 18, a working chamber 20 and a differential pressure chamber 30.

Schneider fails to teach or suggest a fuel injection device of the type recited in claim 38, including a pressure booster piston, a working chamber on one side of the pressure booster piston, a differential pressure chamber on an opposite side of the pressure booster piston, a high-pressure chamber defined, at least in part, by an end face of the pressure booster piston and a nozzle chamber inlet hydraulically connecting the nozzle chamber with the high-pressure chamber. Accordingly, claims 35 and 38 are not anticipated by Schneider.

In addition, claim 38 requires that the pressure booster piston be actuated by means of a pressure change in the differential pressure chamber and that the pressure change in the differential pressure chamber must occur via the central control line. With regard to the teaching in Schneider, this requires that the "pressure booster piston" 18 be actuated by means of a pressure change in the "differential pressure chamber" 30 occurring via the line 46, but this does not occur in Schneider.

In col. 3, ll. 47-54, Schneider teaches that

> The injection phase begins when the control valve 80 prohibits fuel communication between passages 90 and 82, thus restricting flow from the timing chamber 20. The fuel within the timing chamber 20 will be compressed as the pumping plunger 16 descends, thus establishing a hydraulic link and forcing the metering piston 18 downward.

It is clear from this teaching that the metering piston 18 is not actuated by a pressure change in the metering chamber 30 (identifed by the examiner as the claimed "differential pressure chamber"). Rather, the metering piston 18 is actuated by a pressure change in the timing chamber 20. Thus, Schneider does not anticipate claim 38, because it does not teach a pressure booster piston actuated by means of a pressure change in the differential pressure chamber occurring via the control line as required by claim 38.

Since claim 38 is generic and has been shown to be allowable over the applied prior art, it is proper to reinstate non-elected claims 26-28, 29, 31-34 and 36 and allow them along with allowable claim 38, on which they ultimately depend.

The Commissioner is hereby authorized to charge any/all fees associated with this communication to Deposit Account Number 07-2100.

The **mailing of a corrected Office action**, entry of the amendment and allowance of the application are respectfully requested.

Respectfully submitted,

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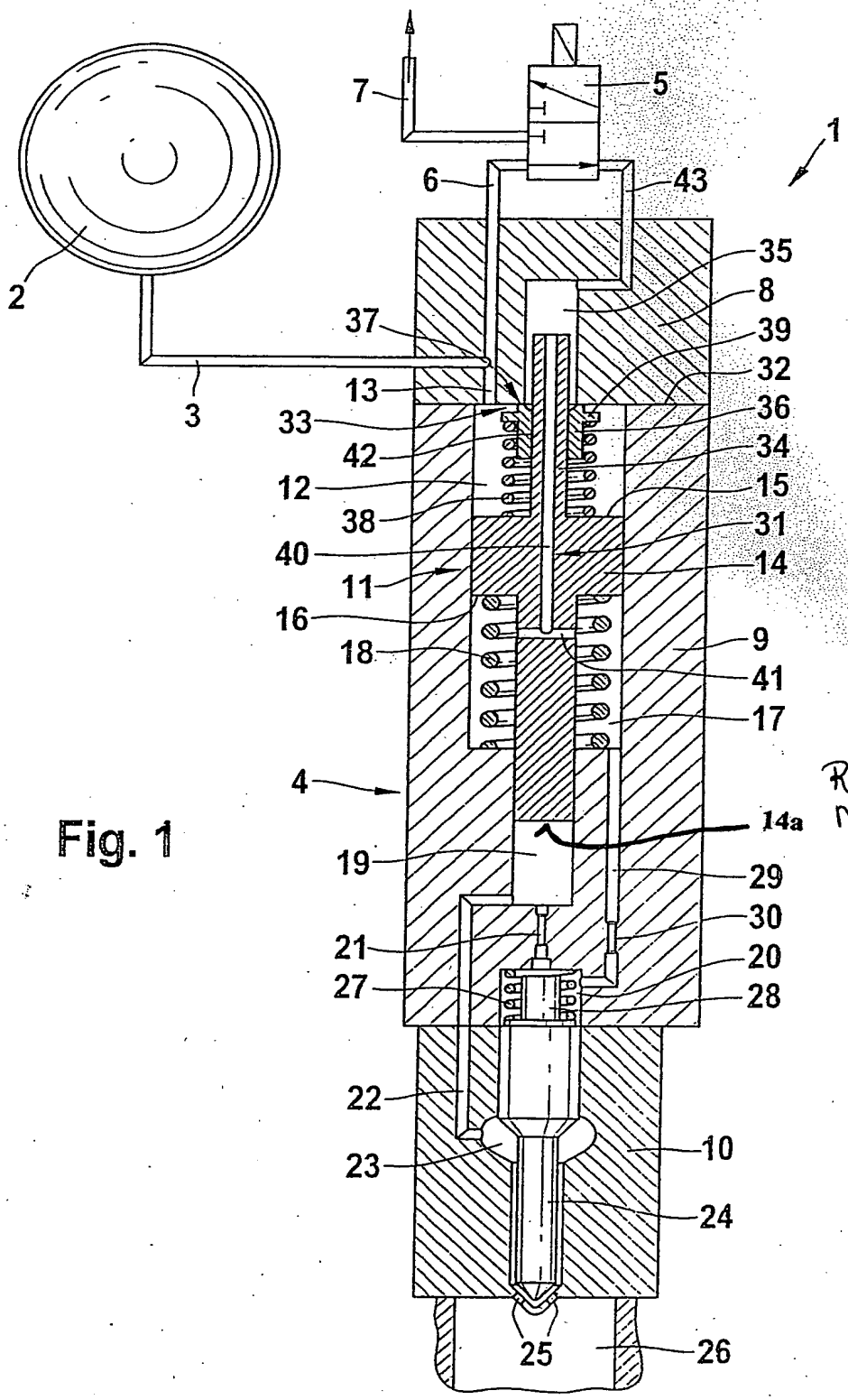

Fig. 1

Reference number 14a added